



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

BULLETIN

OF THE

TORREY BOTANICAL CLUB

VOL. 46

FOUNDED BY WILLIAM HENRY LEGGETT 1870

EDITOR

ALEXANDER WILLIAM EVANS

ASSOCIATE EDITORS

JEAN BROADHURST
JAMES ARTHUR HARRIS
MARSHALL AVERY HOWE

MICHAEL LEVINE
GEORGE ELWOOD NICHOLS
ARLOW BURDETTE STOUT

NORMAN TAYLOR

NEW YORK

1919

PUBLISHED FOR THE CLUB
THE NEW ERA PRINTING COMPANY
LANCASTER, PENNSYLVANIA

CONTENTS

STEINBERG, R. A. A study of some factors influencing the stimulative action of zinc sulphate on the growth of <i>Aspergillus niger</i> —II. A comparison of two strains of the fungus (plate 1).....	1
WILLIAMS, R. S. Notes on some western Lichens.....	21
BROWN, ELIZABETH DOROTHY WUIST. Apogamy in <i>Camptosorus rhizophyllus</i> (plate 2).....	27
RAMALEY, FRANCIS. Xerophytic grasslands at different altitudes in Colorado....	37
OSTERHOUT, GEO. E. Additions to the flora of Colorado.....	53
LEVINE, MICHAEL. The sporadic appearance of non-edible mushrooms in cultures of <i>Agaricus campestris</i> (plates 3-5).....	57
WEATHERWAX, PAUL. Gametogenesis and fecundation in <i>Zea Mays</i> as the basis of xenia and heredity in the endosperm (plates 6, 7).....	73
ANDREWS, F. M., and BEALS, C. C. The effect of soaking in water and of aëration on the growth of <i>Zea Mays</i>	91
ARTHUR, JOSEPH CHARLES. New species of Uredineae—XI.....	107
BROWN, FOREST B. H. The preparation and treatment of woods for microscopic study.....	127
STEWART, E. GRACE. Mucilage or slime formation in the cacti (plate 8).....	157
EVANS, ALEXANDER W. A taxonomic study of <i>Dumortiera</i>	167
PENNELL, FRANCIS W. Notes on plants of the southern United States—V....	183
GRIFFITHS, DAVID. New and old species of <i>Opuntia</i> (plates 9, 10).....	195
WILLIAMS, R. S. The genus <i>Desmatodon</i> in North America (plate 11).....	207
ASHE, W. W. Notes on trees and shrubs in the vicinity of Washington.....	221
GLEASON, HENRY ALLAN. Taxonomic studies in <i>Vernonia</i> and related genera .	235
RECORD, SAMUEL J. Storied or tier-like structure of certain dicotyledonous woods.....	253
WEATHERWAX, PAUL. The ancestry of maize—a reply to criticism.....	275
BERRY, EDWARD W. A new <i>Matonidium</i> from Colorado, with remarks on the distribution of the <i>Matoniaceae</i> (plates 12, 13).....	285
RYDBERG, P. A. Phytogeographical notes on the Rocky Mountain region—VIII. Distribution of the Montane plants.....	295
CHURCH, MARGARET B. The development and structure of the bulb in <i>Cooperia Drummondii</i> (plates 14-16).....	337
PENNELL, FRANCIS W. A brief conspectus of the species of <i>Kneiffia</i> , with the characterization of a new allied genus.....	363
HITCHCOCK, ROMYN. Preliminary note on a differential staining of the cytoplasm of <i>Characeae</i>	375
SMITH, CHARLES PIPER. Studies in the genus <i>Lupinus</i> —IV. The <i>Pusilli</i>	389
ARTHUR, J. C., and MAINS, E. B. Grass rusts of unusual structure.....	411
BICKNELL, EUGENE P. The ferns and flowering plants of Nantucket—XX....	423
THURSTON, H. W., JR. Sex in the <i>Conjugatae</i> and the relative frequency of the different types of conjugation.....	441

LEVINE, MICHAEL. Studies on plant cancers—I. The mechanism of the formation of the leafy crown gall (plates 17, 18).....	447
WOODBURN, WILLIAM L. Preliminary notes on the embryology of <i>Reboulia hemisphaerica</i> (plate 19).....	461
STEVENS, NEIL E. The development of the endosperm in <i>Vaccinium corymbosum</i>	465
EVANS, ALEXANDER W. Three South American species of <i>Asterella</i>	469

INDEX TO AMERICAN BOTANICAL LITERATURE, 31, 65, 101, 151, 189, 227, 279, 329, 381, 417, 453, 481.	
---	--

INDEX TO VOLUME 46.....	489
-------------------------	-----

Dates of Publication

No. 1, for January.	Pages 1-36.	Issued January 20, 1919.
No. 2, for February.	37-72.	February 25, 1919.
No. 3, for March.	73-106.	March 10, 1919.
No. 4, for April.	107-156.	May 1, 1919.
No. 5, for May.	157-194.	May 23, 1919.
No. 6, for June.	195-234.	July 8, 1919.
No. 7, for July.	235-284.	July 31, 1919.
No. 8, for August.	285-334.	September 27, 1919.
No. 9, for September.	337-388.	October 17, 1919.
No. 10, for October.	389-422.	November 5, 1919.
No. 11, for November.	423-460.	December 8, 1919.
No. 12, for December.	461-502.	December 31, 1919.

Errata

- Page 135, line 12, for "*curea*" read "*aurea*."
- Page 199, line 17, for "that to" read "to that."
- Page 207, line 8, *D[esmatodon] neomexicanus* is a synonym of *D. plinthobius* (as stated on page 212) and not a species of *Tortula*.
- Page 261, line 12, for "*Cladastris*" read "*Cladrastis*."
- Page 305, line 2 from bottom, for "*ophoides*" read "*ophioides*."
- Page 306, line 13, for "*racemosa*" read "*racemosus*."
- Page 308, line 5, omit "*Aster laevis*."
- Page 312, last line, for "*Graphalium*" read "*Gnaphalium*."
- Page 318, line 15, for "*Tolmei*" read "*Tolmiei*."
- Pages 335 and 336 are omitted.
- Page 412, line 15 from bottom, for "*Phaksopsora*" read "*Phakopsora*."
- Page 415, line 8 from bottom, for "*phaksopsoroides*" read "*phakopsoroides*."
- Page 430, line 16, for "*memoralis*" read "*nemoralis*."
- Page 431, line 8 from bottom, for "*humilus*" read "*humilis*."